Version Description Document for

Unified Build, Version 3.0.1.6G

for

Global Command and Control System, Version 2.2

27 September 1996

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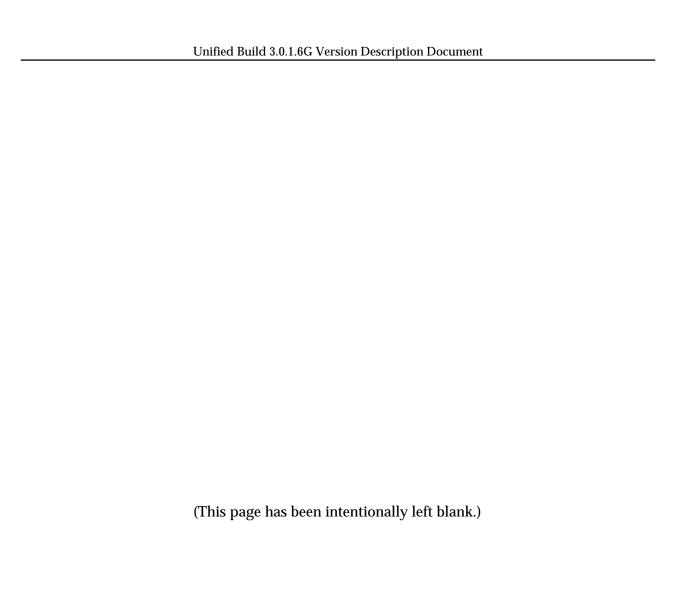Solaris is a trademark of Sun Microsystems, Incorporated.

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1.0 System Overview

Unified Build, Version 3.0.1.6G (UB) for the Global Command and Control System, Version 2.2 (GCCS) provides an environment to share data via a local or wide area network and operates in conjunction with multiple applications on the same hardware platform. UB Version 3.0.1.6G was developed to run with the Global Command and Control System, Version 2.2.

2.0 Version Description

The following subsections describe Unified Build Version 3.0.1.6G for the Global Command and Control System, Version 2.2:

2.1 Inventory of Materials Released

The following physical media and associated documentation make up Unified Build Version 3.0.1.6G for the Global Command and Control System, Version 2.2:

*   UB 3.0.1.6G Application Tape:

    GCCS COE (Consists of the following segments):
    1.   GCCS Account group, version 2.2.0.5 segment
    2.   UB core, version 3.0.1.6G segment
    3.   LINK-11, version 2.0.6b segment
    JMTK, version 3.0.1.6G segment
    UBApps, version 3.0.1.6G segment
    JMCISApps, version 3.0.1.6G segment
    Printer, version 3.0.1.6G segment
    JMCISDEV, version 3.0.1.6G segment

*   Solaris UB Kernel Components Tape (to be integrated into GCCS 2.2 Kernel):

    SysAdm account group, version 2.2.0.5
    SecAdm account group, version 2.2.0.5
    Miscellaneous UB-related kernel files

*   *Version Description Document (VDD) for Unified Build Version 3.0.1.6G for the Global Command and Control System, Version 2.2.*

*   UB 3.0.1.6G change pages to *Unified Build 3.0.1.5G User's Guide, Volume 1 and Volume 2, dated 28 August 1996.*

*   UB 3.0.1.6G change pages to *Unified Build 3.0.1.5G System Administrators Guide, dated 28 August 1996.*

2.2 Software Changes

The following changes were made to the versions described:

2.2.1 UB 3.0.1.6G Modifications

The following items were modified between UB Version 3.0.1.5G and UB Version 3.0.1.6G:

Functions Added:

1. HP ONLY: Made modifications to UB 3.0.1.6G to support HP installation, launch, and operation of GCCS 2.2. Includes HP-specific Hardware Diagnostics and Equinox (serial mux) Driver Configuration options within SysAdmin.

2. Changed Admin Manager to support GCCS's architecture of possibly distinct EMSERVER, DBSERVER, and TDBM Master machines.

3. Modified UB PostInstalls to perform the required "dive" command on EM Clients even if "nfsd" and/or "mountd" are not running.

4. Protected the user from entering duplicate Full Host names in the System Configuration window.

Problems Corrected:

1. Corrected a subtle problem with the FOTC Parameters window, which would not launch when an AutoForward entry existed with "ALL" selected as the message criteria.

2. Corrected a bug in SAInstaller that caused Community files to erase their target files if the text string to be modified or removed was not present in the file.

3. HP ONLY: Corrected an HP-specific bug with UB's Reboot option on the SysAdmin menu.

4. Corrected a bug in the ATO decoder which caused the core message decoder to terminate abnormally when certain ATOs are received.

5. Corrected diskspace reserved values (in SegDescrip/Hardware file) for all UB segments, to use appropriate amounts.

2.2.2 UB 3.0.1.5G Modifications

The following items were modified between UB Version 2.1.3.5 and UB Version 3.0.1.5G:

2.2.2.1 UB Changes

The following changes were made to UB:

Functions Added:

1. Changed the baseline version of UB from 2.1 to 3.0.1. The UB 3.0.1.1 system was ported to GCCS and then modified (see items below). Much functionality was added between the UB 2.1 and 3.0.1 series. Some highlights:

    • Corrected numerous core and application stability problems (from JMCIS 2.2 OPEVAL)
    • Enhanced overlay capability:
        -- Arrow draw tool
        -- "Hookable" Overlay segments
        -- Ability to store a map with an overlay for future display.
        -- HTML-based online context-sensitive help.
    • UB Printer support for LaserJet IV, Color PostScript, HP Deskjet 550/560/660, Canon Bubblejet BJC-600/820. Also, configurable baud rate for serial printers.
    • Infrastructure added to support Common Operational Picture.
    • A number of new comms interfaces supported:
        -- New Active Link-11 and passive Link-11 EDO/IH taps
        -- NETPREC channel (Network prioritized by precedence)
        -- 16-bit OTCIXS
        -- RF-Net
        -- TADIL A/B (segment)
        -- TCIM (segment)
        -- TLC-10 (segment).
    • Boot-time launch of Tdbm server processes (ONLY on the Tdbm Master computer), enabling UB functionality without requiring login on that machine.
    • Process launch management, enabling segments to request session and/or boot-time process launch. Also automates core process shutdown for critical System Administration (e.g. CLEAN DATAFILES, Segment Load).
    • New Boolean Track Search window.
    • Upgraded ATO browsing and geo-display capabilities.
    • Track Control option allows Plot Controls to be set on a user-selected group of tracks
    • Ability to store Plot Control settings.
    • Track Database backup (optionally automatic) function.
    • Filtered tracks window displays all Tdbm tracks and the application which is filtering them from display.
    • Upgraded UB Role capability to support specific functional permissions (e.g. ability to edit tracks, configure ELINT Configuration window). IMPORTANT: See Section 2.4 Other Notes.

2. Segmented UB into a GCCS environment.

3. Upgraded Chart Draw Modules to include the following:

    - Support for a Map Server.
    - Consolidation of MapList and MapManager applications.
    - Capability to copy CD data to disk and network loading.
    - Modified VPF, RPF, and DTED draw modules.

4. Integrated the following high priority fixes from UB 3.0.1.3 build:

    - UB08632, UB08727 -- Add support for Exercise tracks in TRE.
    - UB07930 -- Increased precision of data read from the Param. Uncert. Table.
    - UB08528 -- Elint Candidates window fixed to allow reference track's PRI to be basebanded as close as possible to the candidate track's PRI without averaging the two values.
    - UB08701 -- Bring JMCIS GOLD decoders into compliance with Exec Order 12958 -- Marked "DECL ON: X1."

5. Added the COE Tools to the AcctGrps/GCCS/progs directory to provide capability to create and test segments.

6. Included the UB Printer Segment. Modified the UB Printer Setup window to allow user to select a name for the UNIX printer being created, and optionally, to check a box so that UB WILL NOT re-initialize a pre-existing printer (e.g. SPARCPrinter created from NeWSPrint CD).

7. Added UB support for new TRE 10.0 national sensor format changes.

8. Made minor Tdbm changes to support GSI requirements for JWID 96. Added support for displaying the MILID for ground link tracks.

9. Made various corrections to existing on-line UB documentation (both User's Guide and System Administrator's Guide), including the addition of JMTK documentation available as a part of the online User's Guide.

Problems Corrected:

1. Corrected TacPlot link library bug disabling several TacPlot APIs.

2. Included MDX Version 5 (corrects all known MDX bugs).

3. Integrated high priority fixes from UB 3.0.1.1 and 3.0.1.2 builds.

4. Added the linking of the gen.a library to the Chart area to further support STRIKE PLOT.

5. Ported the TDBM divide-by-zero fixes from UB 2.1.3.5 build.

6. Corrected Chart port numbers in /etc/services file to avoid collision with other services.

7. Modified the tar options used by SecAdm so that file permissions are maintained.

8. Added a new option to MakeInstall executable to allow the preservation of segment order.

9. Modified segment PostInstall files to share /h directory during extraction of global data.

10. Made minor modifications to new CD Map Load Module: streamlined directory structure, corrected Stored Maps error, other minor fixes.

11. Replaced the legacy word "JMCIS" on the system chart with the corrected: "GCCS".

12. Corrected TacPlot crash condition caused by use of wildcards (regular expressions) in various Chart API's.

13. Made minor UB menu modifications to remove redundancy and extra items.

14. Fixed Message Alerts (Mailbox Icon), which was not launching, regardless of message criteria.

15. Corrected problem while editing an ATO, where the NIPS QUERY pop-up menu option caused the function to terminate abnormally.

16. Made corrections to new chart draw modules to:

    *   Warn the user if he tries to load a CD map twice.
    *   Handle duplicate names in different VPFs.
    *   Resolve a timing/system-call bug.

17. Corrected remote printing (printing from one machine to a printer attached to a machine across the LAN), which was non-functional.

18. Made internal corrections to Tdbm to support Common Operational Picture for JWID '96.

19. Corrected SEARCH function failure in Message logs on Solaris.

20. Corrected a bug that prevents any kermit-type channel from setting itself up to receive a message. The channel would launch, but no messages (e.g. ATO's) could be received.

21. Corrected ELINT Candidates window failure to launch, with SECRET data loaded.

22. Corrected a low-level TDBM socket problem that causes large Track Tables to fail to update (if edited on the Tdbm Master) or to corrupt the datafile and crash Master Tdbm (if edited on a Tdbm Client).

23. Corrected UB System Configuration's invalid modification of /h/data/global mount. Removed this functionality.

24. Corrected a Solaris-only bug that prevented the network pull of an ATO from a remote (JFACC) host.

25. Corrected a bug in Icm that prevented the Incoming Message Filters window on a slave from showing any changes made to the table (until after reboot).

26. Fixed bug in the UB CommsWdw (Raw Data) executable that prevents it from terminating after the raw data has been closed.

2.2.2.2 SYSADMIN Changes:

The following changes were made to SYSADMIN:

Functions Added:

1. A System Configuration function was added to the SysAdm area that allows users to configure the TDBM Master machine and construct the appropriate AdmMgr information.

2. Made various corrections to existing on-line UB documentation (both User's Guide and System Administrator's Guide), including the addition of JMTK documentation available as a part of the online User's Guide.

3. Pull the entries that exist in the COEServices file from the OS (/etc/services file). The COEServices file should be responsible for adding services vice the OS. Also remove some services once required by NIPS but no longer (per NRaD Philadelphia).

4. Added the capability to print the Release Notes for a given segment from within SAInstaller.

Problems Corrected:

1. Ported SAInstaller change from GCCS 2.1 build to allow remote installation.

2. Modified SAReboot to allow clean reboot of GCCS from SysAdm menu.

3. Corrected the segment installer to handle the SegDescrip/Processes file correctly, allowing segments to designate processes to be launched at boot, session, or chart startup time.

4. Corrected SAInstaller incorrect reporting of size of large hard disks. Also corrected SAInstaller xterm launch (from EM launch icons) to include the core process shutdown routines prior to segment install.

5. Fix refresh problem in System Configuration window, so that items entered will not revert back to their original states when OK is pressed, prior to writing to the file.

6. Corrected problem in Clean Datafiles launch script that prevented the SACleanData executable from running on the Tdbm server machine.

7. Various fixes to the SAInstaller, including: further hard drive (HD) size display fixes, enhancement to allow a script to abort its own installation, enhancement to calculate diskspace needed from SegDescrip and display diskspace available before and after reserve amount.

8. Increase maximum Release Note pages that can be displayed for a segment in SAInstaller.

9. Extend the width of SAInstaller so that more of the segment name can be seen.

10. Change sysadmin login ID to remove reverse xterm app-default.

2.2.2.3 SECMAN Changes:

The following changes were made to SECMAN:

Functions Added:

1. Changed default UB workstation security level to SECRET vice UNCLASS. This will allow CONFIDENTIAL and SECRET segments to load without error.

2. Tighten security so that UB will function with all user umask values set to 2 or 7 (current GCCS 2.2 plans call for umask 2). Assumes that users other than sysadmin and secman have a primary group of "gccs".

3. Modify the UB Export Users/Roles simply to export Roles, not users. This allows the system administrator to define UB roles and export them to the Tdbm clients, so that users have the same menus/permissions (e.g. track view vs. edit) on any machine.

Problems Corrected:

1. MACHINE environment variable corrected for SecAdm.

2.3 Known Discrepancies

1. During the system installation, when logging in after the first reboot (following GCCS COE load and System Configuration), a Warning window is displayed, indicating "Application Not Found". This is an anomaly related to the installation and will never appear once UB is loaded. It should be ignored.

2. Satellite database data cannot be transmitted.

3. The Views=>Set View Filter=>Apply button option will crash the System Chart, if the View window is not active (see Views=>Activate window).

   WORKAROUND: Always ensure the View window is active before selecting the Views=>Set View Filter=>Apply button option.

4. When loading an ADRG map, the user does not yet have the option to copy the ADRG to disk manually (i.e., to choose a target directory and copy the raw data across). All locally-

loaded ADRGs reside in /home2/mapdata, and all global ADRGs reside in /h/data/global/mapdata.

5. Some software modifications made for UB3.0.1.6G may not yet be reflected in the online documentation. The VDD for 3.0.1.6G is, however available online, with the exception of last minute modifications.

6. Due to an EM/UB incompatibility issue, the Close All menu function is inoperative. Processes *are*, however, successfully terminated upon logout.

7. Tracks changed to DOTS via the various plot control mechanisms will not dynamically update their position until the normal symbol is redisplayed. This is a UB 3.0.1-release series deficiency, not specific to GCCS.

8. Many standard Ubfunction key operations are not available in GCCS (e.g., F4=Center Width).

    WORKAROUND: These same operations are available from the menu bar.

2.4 Other Notes

1. IMPORTANT: This version of UB includes Role-Based track management restriction capabilities. Users belonging to the default role, GCCS_Default, (likely including all existing users) are able to edit/add/delete/xmit tracks, and are also able to modify Elint Configuration.

    If there is a need for UB users with restrictions on track database management or on Elint Configuration, the system administrator must create and export a new role with the appropriate permissions, as follows:

    a. Log in as secman.
    b. Double-click the Roles icon.
    c. Add a new role (see Export Roles in the Unified Build 3.0.1.6G System Administrators Guide). Under the permissions section, check the Track and ElintConfig selections appropriately (Tracks: V=View-only, no editing; ElintConfig: E=Edit, allow editing)
    d. Export that role to all Tdbm clients (see Export Roles in the Unified Build 3.0.1.6G System Administrators Guide).
    e. Double-click the Security icon.
    f. Add a new user. In the "Role" field, select the newly-added role from the pick-list.

    The user created in Step f will have access as defined in Step c.

    Finally, it is important to understand the relationship between roles and segments that add menu-bar options. (Note: This does not affect segments using the Icon Launch Window.) The GCCS_DEFAULT, SA_DEFAULT, and SSO_DEFAULT roles are always given full permission to all menu items, including those from segments loaded after initial system configuration. Additionally, when new Roles are created, they are by default given permission to use all menu items. However, if Roles (other than the DEFAULTs) already

exist when a menu-modifying segment is loaded, these Roles will, by default, NOT have permission to use the new menu options associated with that segment. The Role(s) must be edited (then likely exported) after the new segment load and permission granted, if these Roles require access to the new menu items.

WARNING: Do NOT attempt to create different roles for the System Administrator or Security Account Groups. Use the sysadmin and secman users provided with the software to access the needed functions.

2. In SEGMENT INSTALLER window: When manually entering install device name using OTHER selection in SELECT MEDIA window, always use Berkeley device (e.g., /dev/rmt/1mbn). Do not use any other device (e.g., /dev/rmt/1mn).

3. Before attempting to print remotely, use the EM Printer facility (printer icon from sysadmin) option B ("Make the Print Server Able to Accept Network Print Jobs") on the system with the local printer attached.

3.0 Installation Instructions

For instructions on using the segment installer, see the Unified Build 3.0.1.6G System Administrator's Guide.

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